US Army Medical Research and Materiel

Technology Available for Licensing

FREE-FLOATING CRYOSTAT SECTIONS FOR IMMUNOELECTRON MICROSCOPY

This invention is a method for preparing an immunocryostat section and floating it in a cryoprotectant solution on a surface of a glass slide or in a well for viewing by both light and electron microscopy. The step of floating the tissue sample does not destroy the sample for subsequent electron microscope viewing. The data images of selected sites of the same tissue sample can be compared and analyzed by both light and electron microscopy.

In the past, a single tissue sample could not undergo viewing by both a light and electron microscope because the processing for the light microscope would destroy the sample for purposes of the electron microscope. It is of great value to researchers to compile data of a single tissue sample from both types of microscopes rather than comparing separate samples. The invention provides cost and time savings because it eliminates the preparation of multiple tissue samples from a subject and eliminates the down falls of comparisons of two separate and distinct tissue specimens.

The invention advances the use of immunoelectron microscopy to study the immunopathology of the skin basement zone induced by the chemical vesicating sulfur mustard. The invention avoids chemical by using cryofixation to promote the stability of proteins, performs procedures to identify antigenicity of proteins and their anatomical locations, performs procedures on skin tissue that is not amenable to vibratome sectioning, and allows for the use of other cytochemical procedures beyond that of histochemistry.

Features and advantages:

- **Method provides free-floating cryostat sections.**
- **The same tissue sample can be used for both light and electron electron microscopy.**
- **The method does not destroy the tissue sample.**
- **Data derived from both light and electron microscopy can be compared for a single tissue sample.**

Patent Status

required for electron microscopy.

Patent No: 6,555,334 **Available from:** www.uspto.gov
Date Issued: April 29, 2003 **Docket No.:** RICD 00-24

Point of Contact

Dr. Paul C. Mele
Director, Office of Research and Technology Applications
USAMRMC, MCMR-ZA-J
504 Scott St., Ft. Detrick, MD 21702-5012
E-mail: usamrmcorta@amedd.army.mil
Voice: 301-619-6664/2032/7219 Fax: 301-619-5034

KEYWORDS: cryostat, free-floating, electron microscope, light microscope, tissue, immuno histology, sulfur mustard, vesicating agent

Licensing Opportunities • Patent licenses are available to companies with commercial interests